Electronic Communication in a Geographically Dispersed Community of Forensic Scientists

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ABSTRACT

Electronic communication creates new pathways for knowledge sharing, through e-mail, listservers, electronic repositories of information, and web-based forums. This study focuses on two questions in the context of electronic communication in a distributed knowledge intensive community: (1) How do individuals in the community seek answers to their questions? and (2) Why do other individuals answer those questions? Thus, the first question addresses an individual's activities of knowledge seeking, whereas the second question focuses on an individual's willingness to share his or her knowledge with the questioner.

Keywords
Electronic communication, geographically dispersed communities, DNA, forensic scientists, knowledge sharing, prosocial behavior, altruism.

1. THEORETICAL BACKGROUND

With respect to knowledge seeking, we focus on the sequence of looking for answers. In particular, when individuals have a question, they can seek to answer it through a variety of paths: consulting a reference source, asking particular individuals or a group of individuals, staying within the organization or going outside of the organization [3], [16], [17], [19]. Various modalities of communication technologies may enable each of these – e.g., Google facilitates access to a vast array of reference materials on the web as well as identification of individuals with expertise, e-mail facilitates focused and asynchronous questions and answers, listservers and web-based forums allow posting of questions to a large number of people.

While there has been significant research on from whom and what professionals seek answers from [6], [12], and why individuals seek answers from specific other individuals (e.g., because of friendship, expertise, etc., see [7], [10], [14], there has been little examination of the choice among the various types of sources, the sequencing of those choices and the attitudes towards knowledge seeking using means of online communication: e.g., why do some

individuals in a particular situation spend days searching for references to answer a question on their own, while someone else posts a question to a listserver, and yet another person with another question calls someone they know for the answer?

With respect to knowledge sharing, and in particular the deliberate process of answering questions posted on listservers, the critical question is why people actually share knowledge despite some potential drawbacks [4], [5]. That is, sharing is expensive (it takes time), and in some settings it might reduce competitive advantage, such as if knowledge about innovative ideas and techniques is disclosed to an entire community via a listserver.

The social psychology literature suggests different explanations on the issue of sharing one's knowledge, investing times and effort without knowing the consequences [8] with respect to negative reputation effects or power loss [1]. Research on the individual attributes of experts, knowledge hubs or so-called 'helpers' in general, suggests that respondents to listserver inquiries generally act altruistically without considering the above mentioned 'dark side' of social capital and knowledge sharing [15].

Some of this literature shows that actors are willing to help voluntarily those actors in their social network who are considered as friends or are alike [2]. Altruistic helpers focus on the knowledge needs and benefits of others instead on their own motives or expectations of any kind of external rewards. In this study, we examine the interplay of technological, relational, personal, and institutional factors that determine whether people are willing to share their knowledge.

2. RESEARCH DESIGN

We ground this analysis in a particular knowledge-intensive and geographically dispersed community - that of DNA labs involved in the analysis of crime scene samples.

The use of DNA in the criminal justice system has grown exponentially in the last decade [11], and this growth combined with the rapidly changing technology has created a particular need for inter-organizational knowledge sharing among the approximately 170 government labs across the country involved in forensic DNA analysis. The dynamics of this area, combined with the closed universe, make this community a unique

laboratory for the study of impact of information technology on knowledge sharing in a geographically dispersed community.

The data collection is carried out in three partially overlapping stages: (1) semi-structured, open-ended interviews with individuals from the majority of state labs to identify key knowledge seeking and sharing mechanisms using online communication tools; (2) questionnaires of the social networks of members of the community to identify communication patterns and attitudes towards knowledge sharing; (3) ethnographies of two of the state labs to ground our findings [13].

3. REFERENCES

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